

SECTION I: SUMMARY OF WORK FORCE RESTRUCTURING

I.0 Background

Following World War II, the onset of the Cold War between the United States and the Soviet Union led to the buildup of an elaborate network of research, production, and testing facilities known as the nuclear weapons complex. During its half century of operations, this network expanded to 20 major facilities covering 2.3 million acres of land with 120 million square feet of buildings. To meet nuclear weapons production requirements and other national security obligations, the Department and its predecessor agencies assembled an extensive contractor work force. The breakup of the Soviet Union in 1991, together with President Bush's announcement of the first unilateral nuclear weapons reduction agreement on September 27th of that year, signaled the end of the Cold War and dramatically reduced the need for further nuclear weapons production.

The end of the Cold War also brought about fundamental changes in contractor work force requirements as the Department shifted from weapons production to other missions such as environmental management, weapons dismantlement, industrial competitiveness, and science and technology research. Between 1988 and the end of 1992, the Department's contractor work force expanded by nearly 22,000 employees to 148,700 contract workers. These employees were hired in addition to the existing weapons production work force. In 1993, faced with significant budget reductions and overstaffing problems, the Department began to restructure its work force.

During the Bush Administration, Secretary of Energy James Watkins issued Department of Energy Order 3309.1A¹ establishing objectives to ensure fairness while reducing the contractor work force, including programs to minimize layoffs. In passing section 3161 of the National Defense Authorization Act for Fiscal Year 1993,² the Congress directed an explicit planning process for work force changes at defense nuclear facilities involving affected stakeholders and directed that these plans should be guided by certain objectives to mitigate the impacts on workers and communities, especially those whose service had helped maintain our nuclear deterrent force during the Cold War.

Section 3161 requires the Secretary of Energy to develop a plan for restructuring the work force for a defense nuclear facility whenever there is a determination that a change in the work force is necessary. Section 3161 also identifies objectives that each plan should address, including: minimizing social and economic impacts; giving workers adequate notice of impending changes; minimizing involuntary separations; offering preference-in-hiring to the extent practicable to those employees involuntarily

¹ This Order has been incorporated into Department of Energy Order 350.1, Chapter 3.

² Public Law 102-484

separated; providing relocation assistance under certain conditions; providing retraining, educational and outplacement assistance; and providing local impact assistance to affected communities.

Work force restructuring at Departmental facilities has resulted from (1) a transition to a fundamentally new mission at former defense nuclear production facilities; (2) dramatic changes in funding levels for environmental management activities; and (3) improved efficiency in the way the Department's contractors conduct their assignments.

To address the challenges posed by changing missions, and consistent with Departmental policy to apply the work force restructuring process at all sites undergoing significant work force changes, the Secretary of Energy established a Task Force on Worker and Community Transition on April 21, 1993. The primary function of the Task Force was to coordinate adjustment assistance, consistent with section 3161. The Task Force was subsequently replaced by the Office of Worker and Community Transition on September 15, 1994, and was assigned the responsibility for reviewing and evaluating work force restructuring plans from all sites and overseeing the implementation of work force restructuring consistent with these plans and Departmental policy and guidance. In cooperation with affected field organizations, the Office has emphasized retention of workers with skills critical to ongoing or changing site missions and has integrated separation incentives with this objective.

In FY 1998, the Office was tasked with funding all enhanced benefits resulting from work force restructuring activities at DOE contractor sites. Section 304 of the Fiscal Year 1998 (and succeeding years) of the Energy and Water Development Appropriations Act provides that none of the funds appropriated by the Act or any prior appropriations act may be used to augment funds provided to the Office for severance payments or other benefits and community assistance grants under section 3161 of the National Defense Authorization Act for Fiscal Year 1993. Previously, these costs were reimbursed by operating program accounts at sites not primarily funded through the Defense Program Account.

This provision has increasingly constrained the Department's ability to mitigate work force restructuring consistent with best business practices and resulted in a percentage of involuntary separations below performance objectives. This trend is expected to continue in FY 2000.

Since 1993, the Office has issued five versions of general guidance to field organizations tasked with drafting work force restructuring plans. This guidance addresses the need for plans to meet the objectives of section 3161 and offers guidelines for preparing and structuring these plans. In FY 1998, the Office established a streamlined planning and approval process for work force restructuring activities. A copy of the current guidance is included in this report as Appendix A.

I.1 Fiscal Year 1999 Work Force Restructuring Activity

Separations - Fiscal Year 1999. There were 1,840 prime contractor employees separated from the Department in FY 1999 (Exhibit I.1).

SITE- DEFENSE AND NON-DEFENSE SITES (TOTAL)	FY 1999				
	Workers	Enhanced Costs	Program Costs	Total Costs	Total Cost/Recip.
Positions Reduced Voluntarily	1 025	\$935 735	\$19 269 864	\$20 205 599	\$19 713
1.1 Early Retirement	123	\$0	\$5 604 643	\$5 604 643	\$45 566
1.2 Non-Retirement Voluntary Separations (Severance Only)	538	\$935 735	\$13 665 221	\$14 600 956	\$27 139
1.3 Net Positions Reduced Through Attrition	364	\$0	\$0	\$0	\$0
Involuntary Separations (Severance Only)	815	\$426 375	\$6 668 285	\$7 094 660	\$8 705
2.1 With Benefits	468	\$426 375	\$6 668 285	\$7 094 660	\$15 160
2.1.1 Non-construction workers	411	\$156 618	\$6 668 285	\$6 824 903	\$16 606
2.1.2 Construction workers	57	\$269 757	\$0	\$269 757	\$4 733
2.2 Without Benefits	347	\$0	\$0	\$0	\$0
Work Force Restructuring Separations and Costs -- Lines 1.0+2.0	1 840	\$1 362 110	\$25 938 149	\$27 300 259	\$14 837
Remaining Affected Workers		\$0	\$32 000	\$32 000	
3.1 Workers Placed without Retraining	785	\$0	\$0	\$0	\$0
3.2 Workers Internally Placed through Retraining	24	\$0	\$32 000	\$32 000	\$1 333
3.3 Transfers to Other Sites	65	\$0	\$0	\$0	\$0
Other Benefits Provided		\$3 058 409	\$1 870 278	\$4 928 687	
4.1 Displaced Worker Medical Benefits	1 044	\$265 030	\$1 752 784	\$2 017 814	\$1 933
4.2 Relocation Assistance	9	\$26 692	\$0	\$26 692	\$2 966
4.3 Separating or Separated Workers Using Outplacement	2 775	\$1 181 161	\$112 392	\$1 293 553	\$466
4.4 Education Assistance for Separated Workers	1 160	\$1 585 526	\$5 102	\$1 590 628	\$1 371
TOTAL COSTS FOR FISCAL YEAR 1999	n/a	\$4 420 519	\$27 840 427	\$32 260 946	n/a
WORK FORCE RESTRICTING SEPARATIONS (Average Costs) (1)	1 840	n/a	n/a	n/a	\$16 739
NON-RETIREMENT VOLUNTARY SEPARATIONS (All Benefits) (1)	538	n/a	n/a	n/a	\$30 618
INVOLUNTARY SEPARATIONS (All Benefits) (1)	468	n/a	n/a	n/a	\$18 639
Other Separations (2)	11	\$0	\$29 738	\$29 738	\$2 703
9.1 Voluntarily Separated	11	\$0	\$29 738	\$29 738	\$2 703
9.2 Involuntarily Separated					

FOR ALL SITES

Note 1. See Historical Average Costs of Other Benefits for explanation of costs per recipients.

Note 2. May be underreported due to variations in tracking subcontractor employment at different sites.

Exhibit I.1. Work Force Restructuring Summary for All Sites (Defense and Non-Defense)

Just over half of the separations were voluntary (56 percent), while 44 percent of all separations were involuntary (Exhibit I.2).

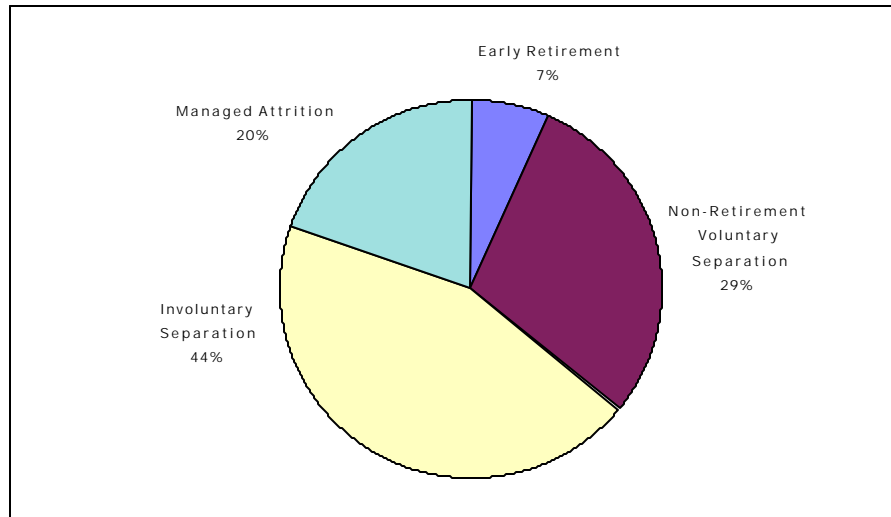


Exhibit I.2 Prime Contractor Separations for FY 1999 (Defense and Non-Defense)

Cost - Fiscal Year 1999. The total cost incurred during FY 1999 was \$32.2 million, and the estimated fully-burdened cost per separation was \$16,700 (Exhibit I.1).³ Severance costs for early retirement averaged \$45,600 per recipient. Nonretirement voluntary separations averaged \$27,100 for severance, and \$30,600 when other benefits are included. The average severance cost for involuntary separations was \$15,200, with a fully-burdened cost of \$18,600 with benefits.

Enhanced Benefits. To comply with section 304 of the Energy and Water Appropriations Act of 1998, separation costs for FY 1999 have been broken out by enhanced benefits, which have been paid for by the Office, and program benefits, which have been paid for by the responsible program office. For the most part, enhanced benefits include relocation assistance, educational assistance, outplacement assistance, and enhanced severance pay. Contract severance pay and displaced worker medical benefits are typically covered by the program offices. The cost of outplacement assistance may be considered a program cost if outplacement has been part of an ongoing corporate benefit.

Of the \$32.2 million total separation costs, \$4.4 million included enhanced benefit costs funded by the Office. The remaining \$27.8 million was funded by the various responsible program offices.

³ A fully-burdened cost per voluntary or involuntary separation is calculated by taking the average severance/incentive cost and adding a per capita historical average cost for other benefits of \$3,479. The fully-burdened cost for all separations uses a prorated historical average based on the ratio of separated workers eligible for benefits.

Cost Savings - Fiscal Year 1999. The annual cost savings associated with the 1,840 contractor employees separated in FY 1999 is \$136 million⁴ versus a one-time cost of \$32 million (Exhibit I.3).

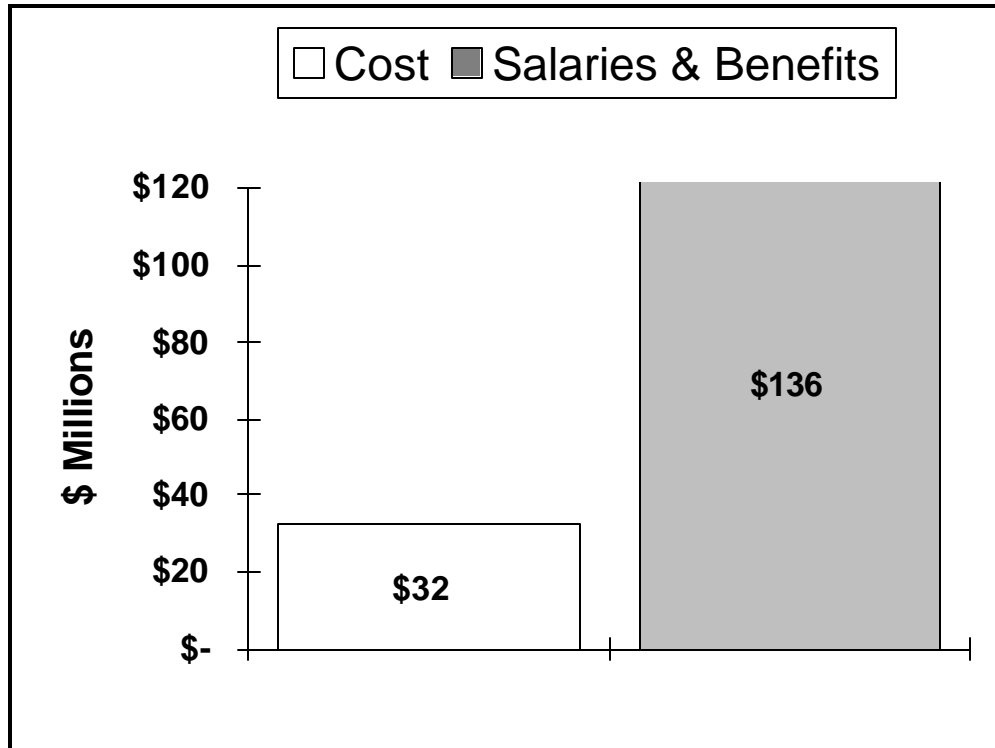


Exhibit I.3 Annual Cost and Savings for FY 1999 (Defense and Non-Defense)

I.2 Changing Separation Patterns

Fiscal Year 1992-Fiscal Year 1999. The Department-wide prime contractor work force has decreased by 46,000 employees since the FY 1992 peak of 148,700. Work force restructuring plans coupled with mission changes, contract reforms, and budget cuts helped reduce the number of employees to 102,683 by the end of FY 1999 (Exhibit I.4). This reduction in contractor employment of 31 percent since FY 1992 has been accomplished consistent with the objectives of section 3161.

⁴ Total annual employee compensation averaged \$72,241 for salary and benefits, based on data compiled by the Department's Office of Procurement Assistance and adjusted for inflation.

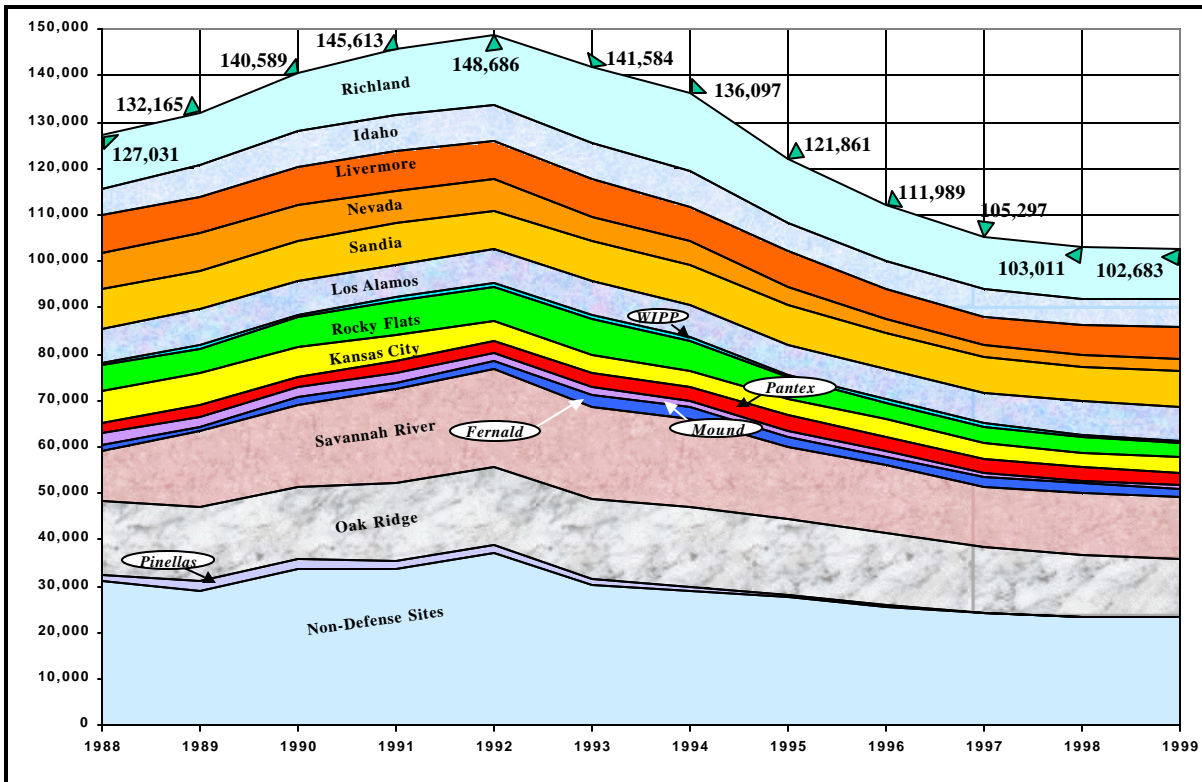


Exhibit I.4 Prime Contractor Employment: Fiscal Years 1988-1999

The Office has compiled prime contractor employment figures at defense nuclear sites for the end of FY 1999 (Exhibit I.5). These employment figures were developed in close consultation and with the concurrence of the relevant field organizations. In order to present an accurate picture of overall contractor employment trends, they include all employees who are involved in the scope of work that has historically been performed by management and operations contractors, even if the contracting mechanism under which they are employed has changed through approaches such as outsourcing, privatization, and enterprise companies.

SITE	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Richland	11,449	11,683	12,730	14,127	15,107	16,062	16,952	13,757	12,099	11,330	10,984	10,908
Idaho	5,773	6,510	7,548	7,988	7,901	7,810	7,524	6,084	5,739	5,868	5,743	6,057
Livermore	8,007	8,042	8,042	8,158	7,981	8,014	7,321	7,372	6,688	6,403	6,608	6,668
Nevada	8,035	7,996	7,713	7,390	6,670	5,548	5,068	3,940	2,765	2,345	2,515	2,622
Sandia	8,372	8,432	8,705	8,804	8,473	8,477	8,458	8,527	8,057	7,576	7,501	7,657
Los Alamos	7,442	7,667	7,402	6,992	7,203	7,293	7,024	6,708	6,439	6,687	7,009	7,279
WIPP	375	506	603	714	775	799	735	640	636	636	613	625
Rocky Flats	5,275	5,312	6,415	7,521	7,302	7,505	6,698	4,418	3,535	3,410	3,166	3,138
Kansas City	6,946	6,829	6,414	5,497	4,489	4,170	3,289	3,563	3,661	3,679	3,256	3,106
Pantex	2,627	2,573	2,390	2,492	2,673	3,020	3,230	3,348	3,327	2,920	2,856	2,840
Mound	2,219	2,150	2,149	2,150	1,741	1,713	1,337	1,122	924	740	708	729
Fernald	1,509	1,122	1,128	1,203	1,489	2,412	2,385	2,203	1,986	1,989	1,977	1,907
Savannah River	10,629	16,403	17,663	20,185	20,979	19,788	18,922	15,430	14,379	13,231	13,082	12,918
Oak Ridge	15,651	15,965	15,934	17,200	17,257	17,437	17,215	16,580	15,815	14,046	13,573	12,831
Pinellas	1,710	1,698	1,667	1,618	1,569	1,100	1,007	669	538	5	0	0
SUBTOTAL	96,019	102,888	106,503	112,039	111,609	111,148	107,165	94,361	86,588	80,865	79,591	79,285
Other Sites	31,012	29,277	34,086	33,574	37,077	30,436	28,932	27,500	25,401	24,432	23,420	23,398
GRAND TOTAL	127,031	132,165	140,589	145,613	148,686	141,584	136,097	121,861	111,989	105,297	103,011	102,683

**Exhibit I.5 Department of Energy Management and Operating Contractor Team
Employment at Selected Sites**

Since FY 1993, voluntary separations, including early retirement and nonretirement voluntary separations, have accounted for 71 percent of all separations. The remaining 29 percent have been involuntary (Exhibit I.6 on the following page).

Fiscal Year 1993-Fiscal Year 1994. In FY 1993, as the Department began work force restructuring, voluntary separations were the preferred method of prime contractor reductions. During FY 1993/1994, voluntary separations accounted for 82 percent of the total separations. Nearly two-thirds of all voluntary separations occurred through nonretirement incentives, followed by early retirement and attrition. Involuntary separations comprised the remaining 18 percent of separations. Work force restructuring from the Department's defense nuclear sites in FY 1993/1994 totaled approximately 5,800 separations, while total positions reduced were 4,400 after considering new hires. See *U.S. Department of Energy Report on Work Force Restructuring Plans During FY 1993 and 1994*, February 1996, for further information.

Fiscal Year 1995. Nearly 18,800 prime contractor workers were separated from the Department in FY 1995. Even though the number of separations tripled, the percentage of voluntary and involuntary separations in FY 1995 remained consistent with FY 1993/1994 activity. Voluntary separations dominated FY 1995 figures, representing 80 percent of the total separations. The

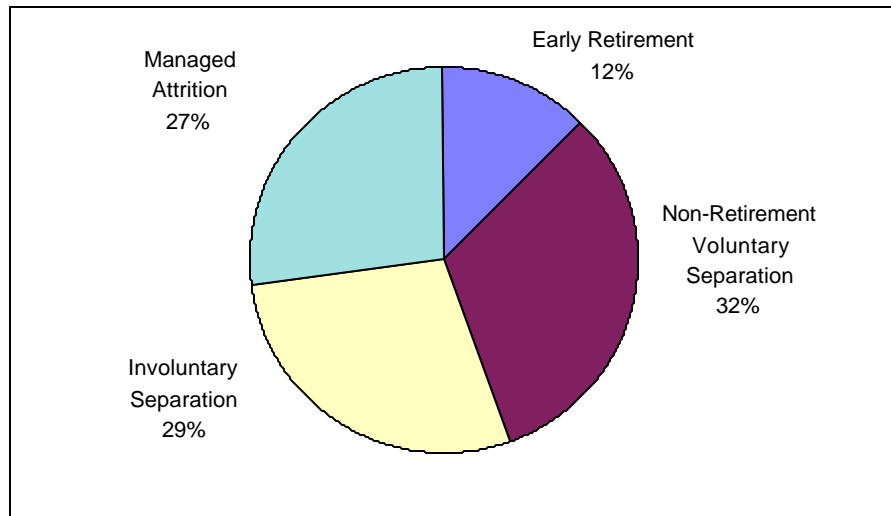


Exhibit I.6 Prime Contractor Separations for FY 1993 Through FY 1999

remaining 20 percent were involuntary. Within the cohort of voluntary separations, the percentages of early retirements and other incentivized separations declined while attrition expanded. After considering new hires, there were 14,200 total positions reduced in FY 1995. See *U.S. Department of Energy Annual Report on Contractor Work Force Restructuring, Fiscal Years 1995 and 1996*, January 1997, for further information.

Fiscal Year 1996. More than 11,700 prime contractor workers were separated from the Department in FY 1996, a 37 percent reduction from FY 1995. Voluntary separations still outnumbered involuntary ones, representing 71 percent of all separations. Involuntary separations expanded to 29 percent. After considering new hires, there were 9,900 total positions reduced in FY 1996. See *U.S. Department of Energy Annual Report on Contractor Work Force Restructuring, Fiscal Years 1995 and 1996*, January 1997, for further information.

Fiscal Year 1997. There were 7,000 prime contractor workers separated from the Department in FY 1997, a 40 percent reduction from FY 1996. Voluntary separations decreased to just over half (56 percent) of all separations. Involuntary separations grew to 44 percent. After considering new hires, there were 6,700 total positions reduced in FY 1997. See *U.S. Department of Energy Annual Report on Contractor Work Force Restructuring, Fiscal Year 1997*, March 1998, for further information.

Fiscal Year 1998. There were 3,000 prime contractor employees separated from the Department in FY 1998, a 55 percent decrease in separations from FY 1997. Just over half of the separations were voluntary (56 percent), while 44 percent of all separations were involuntary. After considering new hires, there were 1,200 positions reduced in FY 1998. See *U.S. Department of Energy Annual*

Report on Contractor Work Force Restructuring, Fiscal Year 1998, March 1999, for further information.

Trend Analysis. Comparisons of work force restructuring activities from FY 1992 through FY 1999 show a trend toward fewer incentivized separations (Exhibit I.7). Early retirement has steadily decreased from 30 percent in FY 1993/1994 to two percent in FY 1998, as the number of older, eligible individuals in the work force has decreased. However, in FY 1999 the percentage of early retirement separations increased to seven percent due to early retirement options at two national laboratories. The percentage of nonretirement voluntary separations has decreased consistently from 43 percent in FY 1993-1994 to 29 percent in FY 1999. In FY 1999, enhanced severance arrangements only account for about one-third of all separations. This trend, in part, is the result of reductions from the Office's appropriations request, coupled with the limitations of section 304. In FY 1995 and FY 1996, there was a trend towards separations through managed attrition; however in FY 1997, FY 1998, and FY 1999, the percentage of positions reduced through attrition decreased due to the hiring necessary to ensure critical skills were maintained at the sites. Involuntary separations have steadily increased from 18 percent in FY 1993-1994, to 44 percent in FY 1999.

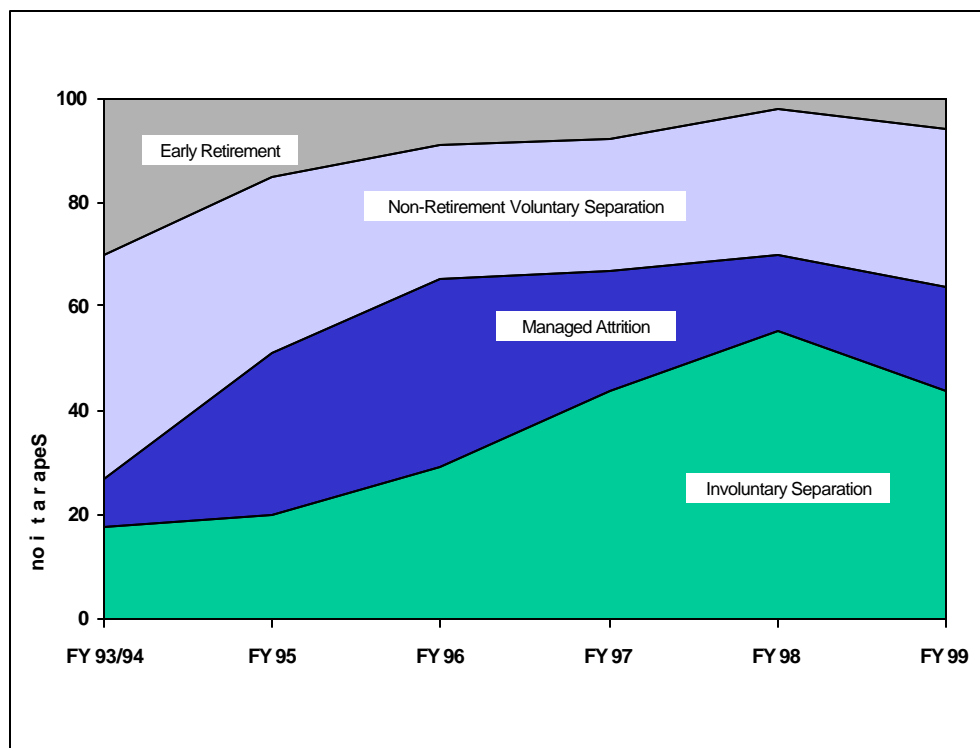


Exhibit I.7 Changing Separations Patterns

Major single-action work force restructuring activities due to budget constraints are occurring less frequently than in prior years. Incremental work force changes made as part of ongoing business decisions are becoming more common. These changes often relate to efficiency of operation, including changes in contracting mechanisms.

I.3 Cost Savings and Separation Costs⁵

The purpose of work force restructuring is to increase the cost-effectiveness and efficiency of Department-wide site operations by matching skilled employees with mission requirements. To achieve this result, prime contractors must separate or retrain workers whose skills no longer match mission needs. Sites employ a variety of means to minimize the economic and social impacts of voluntary and involuntary separations. These include enhanced severance for nonretirement voluntary separations, early retirement incentives, tuition assistance, medical benefit extensions, and outplacement services. The costs associated with these benefits are offset by savings realized from restructuring the work force.

Annual Cost Savings. Annual cost savings associated with work force reductions are based on the cost savings realized by the Department when current compensation costs are compared to the cost that would have been incurred if employment levels remained at the peak employment of 148,700 reported in FY 1992.

The average compensation cost includes salary and benefits. In FY 1993 the average compensation cost was estimated at \$61,000 per contractor employee. To accurately reflect compensation costs through FY 1999, this figure was inflated by 4 percent each year, with the exception of FY 1994, when a salary freeze was in effect.

Based on the current average FY 1999 compensation cost of \$74,214 per employee, the 48,000 reductions since FY 1993 reflect a potential annual cost savings of over \$3.6 billion. This annual cost savings is more than three times the initial one-time cost of separations.

⁵ Costs for early retirement are actuarial costs that include all costs associated with retirement payments to separated workers; costs for other incentivized voluntary separations include normal severance costs plus enhanced severance, but do not include normal salaries paid during any period after notice of separation. Separation costs do not include unemployment compensation, either for payments made directly to employees or additional unemployment compensation taxes assessed against the employer.

Comparison of Benefits at Defense and Non-Defense Sites. Work force restructuring at sites not covered by section 3161 is conducted in a manner consistent with longstanding Departmental policy and Secretarial guidance to apply the objectives of the legislation wherever work force restructuring occurs. Best business practices are used as a benchmark in developing restructuring strategies at these sites.

During FY 1999 non-defense sites reduced a total of 247 positions. There were 125 voluntary and 122 involuntary separations. The overall cost per separation at non-defense sites (\$8,000) was lower than at defense sites (\$18,100). The higher cost of separations at defense sites is due to a higher percent of early retirement and non-retirement voluntary separations. While section 3161 provides a structured and open process for work force restructuring, the strategies undertaken to implement the legislation are not fundamentally different from what occurs where the legislation does not apply, either in the public or private sectors.

External Benchmarking of Benefits Provided. Work force restructuring, particularly when it involves large numbers of employees, is subject to complex legal considerations including questions of discrimination based on age, sex, race, or other factors and collective bargaining agreements. Restructuring activities are susceptible to challenge, with attendant costs. When reductions-in-force are governed by strict seniority rules, an employer's ability to retain particular employees with critical skills can also be limited. Further, worker insecurity about their treatment in the event of additional work force changes often severely decreases the productivity of the remaining workers.

These factors have encouraged private companies to undertake work force restructuring strategies involving enhanced benefits – strategies that are adopted after cost-benefit calculations have been developed. The vast majority of large companies in the United States provide severance payments to workers who are involuntarily separated. Many also provide medical benefits, assistance in finding a new job, counseling, and/or training for affected employees. These benefits are often part of an employment contract (implied or written) or a collective bargaining agreement.

In March 1995, a report issued by the General Accounting Office (GAO) surveyed 25 major companies, including firms with considerable Federal contracting such as General Motors, General Electric, Grumman, and Honeywell. The GAO found that 72 percent of these companies “provided various incentives to encourage employees to voluntarily leave.” For defense contractors, such as Grumman or Honeywell, the Department of Defense negotiated with the company to determine whether enhanced separation costs would be allowed.

A survey conducted by Actuarial Services Associates, Inc. (ASA)⁶ of downsizing practices of 60 major companies in the mid-1990s “confirm that it is common for employers that wish to downsize first to offer either an exit incentive retirement or resignation program (or sometimes both sequentially), and then to utilize layoffs to the extent downsizing is still needed. This, indeed is *the* classic exit incentive strategy and it is probably motivated more by the desire to be humane and to preserve employee morale.” ASA found that many of these firms would encourage early retirement by allowing an employee to add up to five years in age and service for purposes of calculating pension benefits – since 1993, the Department has not allowed any contractor to enhance retirement calculations by more than three years of age and service.

Based on a review of this information, the benefits, *both in kind and amount*, typically offered by the Department’s contractors to separated employees are consistent with those offered across industries in the private sector. For example, the most common form of enhanced severance payment across the Department has been “lump sum” payments, typically based on one and one-half to two week’s pay for each year of service, which is a practice consistent with the private sector. The Department also meets private-sector norms on many of the other benefits provided to displaced workers, including medical benefits, relocation, tuition assistance, and outplacement.

Exhibit I.8 on the following page presents selected findings of recent studies performed by nationally recognized experts on work force restructuring issues and highlights related Department activities.

External Benchmarking of Costs. Work force reductions inevitably involve initial costs in order to achieve long-term savings. In addition to providing the same type of separation benefits as those offered across industries in the private sector, the average separation cost for DOE contractor employees has been well below private sector standards. In an independent assessment of the Office performed by Booz-Allen & Hamilton, Inc., a survey of large U.S. companies was conducted to gather information on the cost of private sector work force restructuring.⁷ Voluntary separation costs for eight companies ranged from \$40,000 to \$70,000, with an average program costing more than \$60,000 per employee. The average separation cost for DOE contractor employees was considerably less.

The FY 1999 average separation cost for DOE contractor employees of \$16,700 compares favorably with the average separation cost of \$21,143 for DOD work force restructuring, as estimated by the GAO. In addition, the Department’s overall goal of approximately \$25,000 per separation is consistent with the Federal buy-out packages approved by Congress.

⁶ Survey summarized in *Downsizing: Law and Practice*, Ethan Lipsig (1996). The ASA survey studied the downsizing of approximately 60 entities, both public- and private sector.

⁷ *Study of the Effects of the Department of Energy’s Work Force Restructuring and Community Transition Plans and Programs*, September 30, 1998, An Independent Assessment Performed by Booz-Allen & Hamilton, Inc.

	Surveys⁸		
Issue	LHH	GAO	DOE Contractors
Restructuring Strategy	**	Redeployment and retraining first, then monetary incentives to encourage resignation or retirement	Retraining, redeployment, early retirement, and voluntary separations offered in most initial restructuring
Severance Policy	Over 80 % have a severance policy	**	Most prime contractors have severance policy
Severance Form	Lump sum cash payments most common	Lump sum cash payments most common	Lump sum cash payments most common
Severance Basis	Over 80% with a severance policy, based on years of service	Based on years of service typically	Over 90% have severance based on years of service
Severance Amount	One week of pay per year of service most common	One or two weeks of pay per year of service	Over 80% one week per year of service
Severance Enhancement	Over 40% enhance severance, usually as a result of downsizing	Many offered enhancements more generous than Federal 'buyout' package	Around 45% of positions reduced since FY93 had enhanced severance or early retirement
Medical Benefits	Over 65% offer medical benefits during severance period	Some paid insurance benefits (less common than enhancements)	Provide medical benefits for those not covered elsewhere
Other Benefits	Most supply outplacement, tuition and other assistance	Many provided outplacement services, limited other benefits	Most provide outplacement, tuition, relocation.
Benefits Projection	Few expect significant change in next 3 years	Packages tend to be less generous over time	Packages tend to be less generous over time

**This feature not included (or reported) in the survey.

Exhibit I.8 Comparison of Private Sector and Department of Energy Restructuring Practices

⁸ Surveys summarized in *Downsizing: Law and Practice*, Ethan Lipsig (1996). The Lee Hecht Harrison survey studied severance policy issues associated with eligibility, calculations and other considerations based on 3,000 responses from human resources personnel; and the GAO study focused on downsizing strategies in selected public (States) and private-sector organizations.

Separation Costs - Fiscal Years 1993 Through 1998. The total cost of the work force restructuring plans from FY 1993 to FY 1998 (\$838 million), averaged over the 46,000 affected workers, was \$18,200 per employee.⁹ For further information see the Department's *Report on Work Force Restructuring Plans During FY 1993 and 1994*, issued in February 1996; *U.S. Department of Energy Annual Report on Contractor Work Force Restructuring Fiscal Years 1995 and 1996*, issued in January 1997; *U.S. Department of Energy Annual Report on Contractor Work Force Restructuring Fiscal Year 1997*, issued in March 1998; and the *U.S. Department of Energy Annual Report on Contractor Work Force Restructuring Fiscal Year 1998*, issued in March 1999.

Cost Comparisons. The cost-effectiveness of the Department's work force restructuring plans has improved since FY 1993. The average cost per worker has declined since FY 1993/1994, when the overall average separation cost was about \$20,600 (Exhibit I.9). In FY 1995, the average separation cost dropped to \$16,700 per worker and to about \$13,900 in FY 1996. The average cost increased in FY 1997 to \$16,800 per separation. In FY 1998, the average fully-burdened separation cost decreased to \$15,700. In FY 1999 the average cost increased slightly to \$16,700 due to higher severance costs at several national laboratories. These figures represent an average fully-burdened cost of all separations, including attrition and workers who were not eligible for enhanced benefits.

Type of Separation	FY 93/94	FY 95	FY 96	FY 97	FY 98	FY 99
Early Retirement	\$42,200	\$46,500	\$39,600	\$47,100	\$49,300	\$45,600
Non-Retirement Voluntary Separation	\$18,200	\$19,900	\$23,800	\$27,000	\$23,100	\$27,100
Involuntary Separation	\$10,100	\$15,900	\$10,800	\$11,500	\$14,700	\$15,200
All Separations	\$20,600	\$16,700	\$13,900	\$16,800	\$15,700	\$16,700

Exhibit I.9 Average Cost of Work Force Restructuring

Early retirement costs have fluctuated from FY 1993/1994 through FY 1999. Per capita early retirement costs averaged over \$42,200 in FY 1993/1994, followed by \$46,500 for FY 1995 and \$39,600 for FY 1996. In FY 1997, these costs increased to \$47,100, which, in large part, was the result of the Pinellas Plant incurring higher early retirement costs relating to plant closure provisions agreed to in 1957. In FY 1998, early retirement costs increased again to \$49,300. This was due to

⁹ Total separations and cost include 473 early retirement separations totaling \$25 million, for an average cost of \$53,900. These separations occurred between the FY 1993/1994 and the FY 1995/1996 annual report and were never counted in the total separations or total cost.

one non-defense site that had six early retirements with significantly higher than average incentive costs. Average retirement costs for the remaining 42 early retirements was \$41,900. In FY 1999, the average cost of early retirement decreased to \$45,600.

The average costs of nonretirement voluntary separations have increased over the same period from \$18,200 in FY 1993/1994, to \$19,900 in FY 1995, \$23,800 in FY 1996, \$27,000 in FY 1997, and decreased in FY 1998 to \$23,100. In FY 1999 the cost increased to \$27,100. The severance costs of involuntary separations have not followed a consistent pattern. The average severance cost of involuntary separations was \$10,100 in FY 1993/1994, \$15,900 in FY 1995, \$10,800 in FY 1996, \$11,500 in FY 1997, and \$14,700 in FY 1998. In FY 1999 the average severance cost of involuntary separations was \$15,200. These fluctuations reflect differences in the compensation levels and seniority of involuntarily separated workers. The average severance cost does not include ancillary benefits or unemployment insurance received by those who were involuntarily separated.

Cost of Other Benefits. In addition to voluntary incentive payments and severance costs, separated workers may be eligible for other benefits including displaced worker medical benefits, relocation assistance, outplacement assistance, and education assistance. These benefits are typically available for multiple years, so the cost incurred in the year of separation for other benefits is only part of the total cost. The remaining costs are incurred in future years. The Office began tracking the cost of other benefits in FY 1993. Cost comparisons among the ancillary benefits yield mixed results (Exhibit I.10).

Type of Other Benefit	FY 93/94	FY 95	FY 96	FY 97	FY 98	FY 99
Medical Benefits	\$4,800	\$1,800	\$2,000	\$2,400	\$3,000	\$1,900
Relocation	\$1,600	\$2,700	\$2,300	\$2,300	\$1,700	\$3,000
Outplacement	not calculated	\$400	\$1,000	\$700	\$600	\$500
Education Assistance	\$2,200	\$2,200	\$1,900	\$2,300	\$1,700	\$1,400

Exhibit I.10 Average Cost of Other Benefits Per Recipient

Historical Average Cost of Other Benefits. With six years of experience to draw from, the average cost per separation for other benefits can be estimated. The historical average cost of other benefits per eligible separation was calculated by determining the total cost incurred for other benefits from FY 1993 through FY 1998, divided by the total number of eligible separations. Eligible separations are nonretirement voluntary separations (excluding attrition) and involuntary separations with enhanced benefits.

The per separation historical average cost of other benefits is as follows: displaced worker medical benefits is \$1,548; relocation assistance is \$46; outplacement assistance is \$937; and education assistance is \$948. The total per capita historical average cost of other benefits is \$3,479. Some separated workers may incur more than \$3,479, some may incur less, and some may not incur any cost for other benefits. However, on average, workers who are eligible for other benefits will incur approximately \$3,479 in cost of other benefits. To estimate the fully-burdened cost of nonretirement voluntary or involuntary separations, the per capita historical average cost of other benefits is added to the average nonretirement voluntary separation cost and the average involuntary separation cost. The average incentive separation cost for a nonretirement voluntary separation in FY 1999 was \$27,100, the fully-burdened cost of eligible nonretirement voluntary separations was \$30,600, with other benefits included. The average severance cost for an involuntary separation in FY 1999 was \$15,200, the fully-burdened cost of eligible involuntary separations was \$18,600 with other benefits.

Not all separated workers are eligible for other benefits (e.g. attrition). To estimate the fully-burdened cost for all separations, the per capita historical average cost of other benefits is prorated based on the ratio of separated workers who are eligible for benefits to total separations. In FY 1999 the average fully-burdened cost for all separations is \$16,700.

I.4 Program Assessment

Section 3153 of the National Defense Authorization Act for FY 1998 required an independent analysis of the Office. As a result, in September 1998 Booz-Allen & Hamilton, Inc. issued their report entitled *Study of the Effects of the Department of Energy's Work Force Restructuring and Community Transition Plans and Programs*. The overall conclusion is as follows:

“The Section 3161 Program, as administered by the Office, has had a positive impact on mitigating the social and economic impacts of the DOE transition by helping to develop and create more than 22,000 jobs, providing a foundation for community economic development, and providing leadership for site closure.”

Various aspects of the worker and community transition program were evaluated, and results are summarized below:

Comparison of Benefits. The Office determined that work force restructuring costs could include payments for early retirement, voluntary separation incentives, standard severance payments for involuntary separations, as well as displaced worker medical benefits, relocation assistance, outplacement assistance, and educational assistance. The Office established an estimated average separation cost per worker of \$25,000 based on voluntary programs by the Federal Civil Service. To

evaluate the effectiveness and fairness of DOE's work force restructuring program, the study compared the type and cost of benefits provided by DOE with benefits provided by DOD contractors and private industry going through similar restructuring. The results of the evaluation support the external benchmarking conducted by the Office and reflected in the *External Benchmarking* section of this report. Not only do DOD contractors and private industry offer the same type of benefits as DOE contractors, DOE contractors provide these benefits at a lower average cost per individual. The study concluded that the average separation cost incurred by DOE from FY 1993 to FY 1997 of \$18,393 per person compares favorably with work force restructuring costs paid by DOD of \$21,143, and is much less than the private sector costs, which ranged from \$40,000 to \$70,000, with an average cost of \$60,000 per employee.

Jobs Created. The Department's community transition program is designed to minimize the social and economic impacts of work force restructuring at defense-related facilities by providing local impact assistance to affected communities. The primary goal of the community transition program is the development of jobs. The external assessment included a review and evaluation of the community transition program and estimated that the jobs created by the community transition program from FY 1993 through FY 1997 totaled 11,503. These jobs were created in communities where the total defense nuclear production work force fell by over 42,000 positions. The Department has not developed estimates for jobs resulting from worker transition programs, however, in conducting their program assessment, Booz-Allen provided such an estimate. It was estimated that 10,845 additional jobs were retained or created by the worker transition program's support of workers' efforts to obtain new jobs.

The study also looked at the cost-effectiveness of DOE's efforts to create new jobs as compared to efforts of other Federal agencies. From FY 1993 through FY 1997, DOE averaged \$10,500 per job created, which compares favorably with the cost experienced by similar Economic Development Administration (EDA) and DOD defense restructuring projects of \$12,999 to \$26,000. The study concluded that job creation was "undoubtedly a major factor in mitigating worker and economic disruptions in the community."

Retention of Skills. While companies are experiencing significant downsizing, they are faced with the significant challenge of retaining a skilled and productive work force. The study assessed the work force restructuring activities for their impact in maintaining the critical skills necessary to complete the Department's ongoing mission. The study concluded that the voluntary separation programs resulted in the "amicable separation" of over 30,000 contractor employees by providing retraining (in lieu of future termination benefits) to key workers who made a commitment to remain at the site to prepare for site closure and transition, and by applying program benefits fairly and consistently to minimize work place violence and legal challenges.

Criteria Used to Provide Assistance. The Office has issued and updated guidance for the work force restructuring program and the community transition program. These documents were reviewed and evaluated in the external assessment. The study concluded that the guidance issued by the Office was responsive to section 3161 requirements, and “that updates were appropriately handled to clarify issues and provide guidance in response to shifting policies.”

Government Accounting Office Assessment. In addition to the FY 1998 independent assessment of the Office, the GAO conducted an external assessment in January 1997 and in April 1999 based on the 1997 assessment, GAO stated that work force restructuring has been conducted consistent with objectives of section 3161. While the Department has prepared work force restructuring plans to meet unique circumstances at each defense nuclear site, approved incentive programs were generally consistent across the complex, and did not exceed the average cost of separations of \$25,000 per person as stipulated in the initial guidance issued by the Office.

The GAO report in 1997 concluded that Departmental oversight of contractor work force restructuring improved following the creation of the Office, stating:

“The limited data available for the early years of restructuring showed problems in retaining workers with critically needed skills. . . . Since these early efforts, [the Department of] Energy has taken steps to improve its ability to retain critical skills. The agency acknowledged in its report on the restructuring efforts in fiscal years 1993 and 1994 that it was essential for facilities to do more effective work force planning to identify the critical skills necessary to carry out the new mission. After [the Department of] Energy revised its guidance to emphasize work force planning, the facilities targeted voluntary separations to retain critical skills, and established controls to restrict the rehiring of employees taking voluntary separations.”

The GAO report in 1999 concluded that “DOE’s assistance to separated contractor workers is reasonably consistent with the types of benefits offered by other government and private employers.” In reference to community transition, the report recommends that community assistance could be better targeted. In response, the Department’s criteria for providing community transition assistance are consistent with statutory direction provided by the Congress and regulations developed by the Department of Commerce. The Department carefully considers economic need in awarding grants to impacted communities and is successfully mitigating the economic impacts of defense-related downsizing.

I.5 Mitigating Restructuring Impacts

The Department employs a number of measures to mitigate the impacts of work force restructuring, especially the impacts of involuntary separation. Several measures have been used successfully to avoid the need for separations. These include: (1) placing at-risk workers in other positions, either directly or by training them for other jobs that may require new skills; (2) transferring workers to other sites with available positions created by changing missions or attrition; (3) providing hiring preferences for involuntarily separated workers. Additionally, sites can offer displaced workers medical benefits, relocation assistance, a variety of outplacement services, and educational assistance.

Placement. In FY 1999, 785 workers were internally placed without retraining, and 24 workers were placed with retraining, with an average cost of \$1,300. An additional 65 workers were transferred to other sites.

Medical Benefits. In 1992, Secretary of Energy James Watkins directed that all prime contractor employees separated from Department of Energy sites and not otherwise eligible for another medical program would be eligible for displaced worker medical benefits. Under this program, employees continue to participate in their former employer's medical program, but at a cost to the participant that increases over time. During the first year, the participant contributes the same amount as when he or she was employed by the company. In the second year, the employee pays one-half the applicable Consolidated Omnibus Budget Reconciliation Act (COBRA) rate. In the third and subsequent years, the employee pays the full COBRA rate.

About 1,000 employees used this coverage, at a total annual cost of about \$2 million, an average of \$1,900 per worker in FY 1999. Recipients of displaced worker medical benefits may have separated in prior years.

Relocation Assistance. The Department offered relocation assistance to separated prime contractor employees to help them relocate to jobs at other DOE sites where such costs are not normally reimbursed. In FY 1999, nine employees took this benefit, costing \$27,000, or nearly \$3,000 per recipient.

Outplacement Services. All Department facilities included in this report have access to outplacement services to assist separated employees in finding new employment either within or outside the Department. Some sites use consultants or subcontractors to provide such services, while others use in-house contractor staff. Some centers are staffed with job counselors, state employment services personnel, and employee assistance counselors to help separated employees locate possible new employment, prepare resumes, and accommodate personal and family concerns resulting from their

separations. Services often include automated job listings, skills assessments, workshops, resource libraries, clerical help, job fairs, and resume distribution.

About 2,800 employees used outplacement services in FY 1999 at a total cost of \$1.3 million, averaging about \$500 per employee. Recipients of educational assistance benefits may have separated in prior years.

Educational Assistance. Employees, whether voluntarily or involuntarily separated, were often eligible to receive financial assistance of up to \$10,000 per employee over a two-year period. Some sites capped the total value of benefit packages, and employees receiving educational benefits received correspondingly smaller benefits in other areas. Approximately 1,200 employees took advantage of educational assistance at a cost of \$1.6 million, or about \$1,400 per employee. Recipients of educational assistance benefits may have separated in prior years.

Preference-in-hiring. Consistent with section 3161, all defense nuclear facility employees involuntarily separated under work force restructuring (and who meet certain qualifications for service at Department sites) are eligible for preference-in-hiring elsewhere in the complex. At the time the legislation was enacted, there was reason to assume that positions would be available for employment in the Department's Environmental Restoration and Waste Management program. However, because of budget reductions, the projected growth in the program has not materialized. Consequently, the use of preference-in-hiring for involuntarily separated defense nuclear employees to obtain employment at other facilities has been limited. Over 170 preference-eligible employees have been hired at Department facilities in FY 1999. To facilitate reemployment in other programs, the Department developed the JOBBS, an electronic system to announce vacancies and to allow employees to post resumes for review by other contractors and programs.

I.6 Community Transition Overview

The Department's community transition program is designed to minimize the social and economic impacts of work force restructuring on communities hosting Department facilities. The program encourages the affected communities to chart their own economic future through the creation of Community Reuse Organizations (CROs), similar to the DOD's Local Reuse Authorities created to assist communities affected by military base closures.

The community transition program was initiated in 1993, with most job and business development activities starting in 1994 or later. Initial program guidance for the community transition program was developed in the spring and summer of 1993, shortly after the formation of the Department's Task Force on Worker and Community Transition. In the intervening period, the program has evolved

Office of Worker and Community Transition

through an extensive process of stakeholder and public involvement. The *Policy and Planning Guidance for Community Transition Activities* was published in the *Federal Register* on February 7, 1997. The guidance clarifies roles and responsibilities among program participants resulting in increased accountability of Headquarters, field organizations, and CROs. The revised guidance also establishes evaluation criteria for funding decisions and program-specific performance measures.

Community transition activities in FY 1999 focused on moving affected communities toward independence and away from primary reliance on funding by the Department. The Office is also encouraging the communities to work cooperatively with organized labor on employment and training opportunities for union members affected by downsizing.

Current Funding Activities. Since 1993, a total of over \$250 million has been committed complex-wide to community transition activities, with \$201 million actually being spent as of September 30, 1999 (Exhibit I.11). To date, 12 communities have received community transition assistance.

Job Creation. From FY 1993 through September 30, 1999, the community transition program has helped communities create or retain 22,436 jobs, at an average cost of just over \$9,000 per position. By the end of FY 2003, community assistance funding provided by the Department is expected to create or retain a total of over 42,000 jobs.

Site	Total DOE Funds Committed	Funds Spent	Jobs Created or Retained (Reported)	Cost Per Job Created	Jobs Created or Retained By 2003 (Est.)
Fernald	\$412,100	\$336,921	0	\$0	0
Idaho	\$23,675,000	\$17,152,310	3,041	\$5,640	7,240
Los Alamos	\$10,933,399	\$4,189,192	395	\$10,606	2,672
Mound	\$19,700,000	\$10,681,486	320	\$33,380	594
Nevada	\$14,588,880	\$11,731,133	1,692	\$6,933	3,183
Oak Ridge	\$53,252,000	\$47,198,496	4,331	\$10,898	6,413
Paducah	\$400,000	\$345,592	0	\$0	0
Pinellas	\$18,067,300	\$18,034,800	2,562	\$7,039	2,954
Portsmouth	\$7,000,000	\$5,275,667	375	\$14,068	819
Richland	\$24,263,742	\$17,716,909	1,888	\$9,384	4,450
Rocky Flats	\$31,693,315	\$30,828,636	1,825	\$16,892	3,343
Savannah River	\$47,622,625	\$38,203,068	6,007	\$6,360	10,482
Totals	\$251,608,361	\$201,694,210	22,436	\$8,990	42,150

Exhibit I.11 Summarizes Community Transition Funding and Job Creation Statistics

Job Creation Benchmark. The Department's community transition program compares to the base closure activities of the Department of Defense. Both Departments face the challenge of stimulating local growth to replace jobs lost as the result of a site either closing or downsizing. The General Accounting Office's most recent study of 60 Department of Defense base closures in 1988, 1991, and 1993 shows that over \$30,000 Federal dollars have been spent for each job created.¹⁰ The Department's experience of creating one job at just over \$9,400 per job compares favorably with other Federal and state agencies.

A performance evaluation conducted by Rutgers University for the Department of Commerce's Economic Development Administration (EDA) defense adjustment program reported a cost of \$12,000 per job created for defense construction projects and \$19,400 per job created for technical assistance projects.¹¹

The *Policy and Planning Guidance for Community Transition Activities* establishes an evaluation criterion for community proposals to create at least one job for each \$10,000 to \$25,000 in Federal funding received.

Community Transition Initiatives. Economic development is a long-term process that requires flexible approaches and multiple strategies to achieve success. To improve the success of the program, the Office has undertaken several initiatives that will provide ideas and assistance to the communities.

- C** **Inter-agency agreements.** The Office is entering into the 5th year of an inter-agency agreement with the U.S. Department of Commerce's EDA for third-party review and approval of all community transition proposals submitted to the Department. EDA has over 30 years of economic development experience working with all levels of government and the private sector. EDA's review of proposed community transition plans has improved the quality and consistency of the proposals. Over \$100 million in projects have been awarded with EDA's support and will increase the probability of successful outcomes.

¹⁰ *Military Bases: Update of the Status of Bases Closed in 1988, 1991, and 1993*, U.S. General Accounting Office, August 1996.

¹¹ *Economic Development Administration, U.S. Department of Commerce: Defense Adjustment Program Performance Evaluation Final Report*, Rutgers University, et al., November 1997. A research team led by Rutgers University evaluated 187 defense adjustment program grants financed by the Department of Commerce's Economic Development Administration. The reviewers measured jobs created, jobs retained, and the amount of public sector funds leveraged.

- C ***Program Assessments.*** The Office conducts program assessments to ensure Department field organizations meet the responsibilities of overall program direction and accountability for using funds for local economic development. Program assessments identify areas for improvement, validate program execution, document successes that can be shared with other locations, and improve communication and understanding among program participants.

- C ***Department Guidance on Protection of Workers Utilizing Leased Facilities.*** The Office led efforts to provide Departmental guidance to ensure the protection of workers that use leased facilities. Leasing facilities to commercial firms can support many program goals including: (1) accelerating clean-up; (2) reusing facilities; (3) transitioning the work force; and (4) partnering with local communities and industry in an overall effort to reduce Departmental risks and costs of clean-up. The guidance establishes levels of protection by grading the risks associated with leasing DOE facilities that will ensure leasing conditions that provide protection to workers from both radiological and non-radiological hazards. The guidance was approved by the Deputy Secretary on August 5, 1999.

I.7 Lessons Learned

The FY 1999 work force restructuring experience illustrates important lessons learned needed to improve the implementation of work force restructuring.

- C ***Site-Specific Solutions.*** It is evident that, in many cases, voluntary separation programs can be tailored to individual site situations in order to mitigate resistance and adverse impacts in a cost-effective manner. Rocky Flats Environmental Technology Site has a program in place to facilitate worker acceptance of outsourcing actions. This program offers enhanced benefits to workers who want to leave contractor employment, with the restriction that they will not seek work at Rocky Flats or other Department of Energy sites. At Savannah River and Oak Ridge, workers who were willing to separate received regular severance payments if their separation eliminates the need to involuntarily separate another worker. This was less expensive than an involuntary separation because of other benefits offered in an involuntary separation. These programs have reduced the number of involuntary separations.

- C ***Employee Performance Evaluations.*** Work force restructuring activities at some sites have highlighted the importance of having valid employee performance measurement systems established prior to work force restructuring. Well-documented

and consistent performance evaluations are critical to managing involuntary separations based upon performance factors.

I.8 Emerging Issues

Several emerging issues are evident as a result of FY 1999 activity.

- C ***Future of Work Force Restructuring.*** Considerable work force restructuring will continue to occur across the Department of Energy complex over the next several years. It is estimated that the Office of Management and Budget spending targets under the balanced budget agreement will result in an average of 3,000 contractor work force reductions per year through 2001. Early site closure called for by Environmental Management's (EM) accelerated clean-up program and improved efficiency in operations (including changes in contracting mechanisms) will require retraining, restructuring and/or separation of up to 3,200 additional contractor workers as a result of EM site closure activities over the next six years, i.e., up to 600 workers at Rocky Flats, 1,900 workers at Fernald and 700 workers at Miamisburg.
- C ***Work Force Management.*** Work force management continues to be a critical issue at many of the sites. As some sites move toward early closure and work force planning systems are further developed, many contractors are developing employee transition plans that promote retention of critical skills. These transition plans may include career training assistance prior to separation in exchange for an agreement to voluntarily separate without severance at an agreed upon time when employee's skills are no longer needed for Departmental missions. Offering benefits to employees in providing a seamless transition to new employment could save the taxpayers millions of dollars by avoiding separation costs. Attrition is also a significant challenge to work force management at some sites. When an employee voluntarily leaves a critical position through attrition, the pool of critically-skilled internal replacements continues to shrink. Sites are increasingly called upon to hire outside the Department's labor pool to meet critical skill requirements.
- C ***Outsourcing.*** Addressing issues related to changes in contracting methods is becoming increasingly important to assure a smooth and productive transition. Outsourcing raises issues with respect to how impacted workers will be treated, including the question of whether wages and benefits remain comparable, how severance and other separation benefits will be dealt with, and the extent that the incumbent work force is provided first opportunity to fill positions with new contractors.

More wide-scale privatization activities raise similar issues. The Office is working with other Departmental programs to provide general principles for work force issues in undertaking privatization actions, develop a checklist of issues to consider, and share lessons learned across the complex.

- C** ***Limitations on Community Transition Funding.*** In FY 1999, the Office had requests of \$50 million for community transition funding and provided \$27.2 million to local communities for economic development purposes. The impacts of the FY 2000 Energy and Water Appropriations Act on the Office (reduction to \$21 million) represents an approximate 20 percent cut from FY 1999 funding. Due to this decrease in the program budget, the Office is severely restricted in its ability to fully fund community assistance grant requests during FY 2000. As a result, programs in several communities that have the potential to achieve long-term savings to the Government will have to be curtailed and opportunities for regional economic diversification may not occur.

I.9 Future Mission of the Office of Worker and Community Transition

The Worker and Community Transition program mission is evolving as the Department confronts new challenges in managing its contractor work force and dealing with facilities that are excess to the future needs of the Department. Work force reductions associated with budget changes will continue, and their complexity will increase, as programs have few, if any, excess skills for critical mission requirements.

The Office is also working with program and field offices, contractors, workers and community leaders to develop work force management and community assistance strategies that will facilitate the early closure of Fernald, Rocky Flats, and Mound. Addressing worker transition issues involved with new ways of doing business, including the use of privatization and outsourcing, is a growing and ongoing program responsibility. Reindustrialization efforts that transition excess DOE facilities for use in commercial enterprises, at sites such as Oak Ridge and Mound, will be an area of increasing focus for the program in the coming years.

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